Supporting Content Web Sites

SEED – A Schlumberger non-profit community development program.
http://www.seed.slb.com/en/scictr/lab/byo_star/
Designed to help the student determine the factors involved in the life expectancy of the star. Students manipulate mass and metal content to determine the fate of their star. Data is recorded for the student and can be printed.
ES-2.5 ES-2.7

NASA's Observatorium
http://observe.arc.nasa.gov/nasa/space/stellardeath/stellardeath_contents.html
Detailed information about the life and death of stars.
ES-2.7

ASPIRE (AstroPhysics Project Integrating Research and Education) Lab
http://aspire.cosmic-ray.org/labs/ShootTheStars/index.htm
Allows students to shoot a radar gun at stars and determine if the stars are red or blue shifted. Includes determining the rotation of the star.
ES-2.3

Bill Arnett
http://seds.lpl.arizona.edu/nineplanets/nineplanets/nineplanets.html
Information about the planets.
ES-2.1 ES-2.2

Why do we see Spiral Arms in some Galaxies?
http://coolcosmos.ipac.caltech.edu/cosmic_classroom/ask_astronomer/video/2005-001.shtml
Short video clip describing why some galaxies are spiral.
ES-2.8

New York University
http://www.nyu.edu/classes/gspscience/hou/html/spectro/spectro.html
Don't have a spectroscope? Try this on-line 'lab'. Students manipulate tubes of known gases and determine the content of an unknown mixture of gases.
ES-2.4

NASA
http://erc.arc.nasa.gov/moonSlides/

Slide show of the moon. Focuses on the Apollo missions on what was learned about the geology and history of the moon.
ES-2.2

Webquest designed by Steve Cogan Capistrano Unified School District
http://www.can-do.com/uci/ssi2003/starlife.html
Global area of study on the sun and stellar evolution. Quiz available for assessment at the end of the webquest.
ES-2.4, ES-2.5, ES-2.6, ES-2.7

howstuffworks
http://www.howstuffworks.com/telescope.htm
Describes the differences between the telescopes.
ES-2.6

Suggested Literature

Fleisher, P. ( ) *The Big Bang*. Twenty-First Century Books:Lerner Publishing Group
ISBN: 0-8225-2133-4
Lexile Level:
ES-2.3

Simon, S. (2003) *The Moon.* Simon and Schuster
ISBN 0-689-83563-9
Lexile Level: 730L
Young children's book describes the early discoveries associated with the moon to the Apollo missions.
ES-2.2

Audronik, C (2002) *Copernicus: Founder of Modern Astronomy*. Enslow Pubilshers
ISBN: 0-7660-1755-9
Lexile Level:
Describes Copernicus' struggle with a heliocentric solar system.
ES-2.1

Scott, E. (1998) *Close Encounters: Exploring the Universe with the Hubble Space Telescope.* ISBN:0-7868-0147-6
Lexile Level:

Tells the story of the Hubble Space Telescope and the information received since its deployment in space. Photographs of Hubble discoveries accompany the narration.

Suggested ETV Streamline SC or ITV Video Resources

Science Investigations Earth Science: Investigating Astronomy
The Origin of the Moon: The Moon's Formation
ETV Streamline SC
Investigates how the moon was formed.
34:53 – 39:14
ES-2

The Future of the Milky Way
Part Two: The Science of the Future: Using Technology to Predict Earth's Fate
ETV Streamline SC
Examines the future of the galaxy.
22:47-28:01
ES-2.9

Strong Chemistry
Inside the Sun
ETV Streamline SC
Looks into the interactions going on inside the sun and the NASA satellites that warn us of incoming solar radiation.
47:44-54:00
ES-2.4

Our Amazing Star
The Sun, Solar System, Planetary Orbits and Gravity
ETV Streamline SC
Describes the relationship between the Sun and planets.
4:00-6:25
ES-2.1

Our Amazing Star
Satellites and Telescopes: How Scientists Study the Sun
ETV Streamline SC
Examines the tools that Astronomers utilizes to study the Sun.
23:31-26:00
ES-2.6

Earth Science: Solar System
The Life Cycle of Stars
ETV Streamline SC
Describes the life and death of stars.
16:48-20:00
ES-2.7

Earth Science: Space Exploration
Hubble Space Telescope
ETV Streamline SC
Shows the benefits Hubble Space Telescope and what can be observed.
9:73-15:17
ES-2.6

Spin Around the Solar System, A: How the Solar System Works
How the Solar System Formed
ETV Streamline SC
Illustrates modern scientific thought on how the sun and planets formed.
1:46-3:50
ES-2.1

Spin Around the Solar System, A: The Sun: Our Star Attraction
Nuclear Fusion Joins Atoms/Nuclear Fusion Creates New Elements
ETV Streamline SC
Describes the nuclear fusion process occurring in the Sun.
2:29-7:34
ES-2.4

Spin Around the Solar System, A: Moon Dance
Moon Formation
ETV Streamline SC
Describes how the moon and earth formed at the same time with the same materials.
2:33-6:05
ES-2.2

Career Connections

Astronomers use the principles of physics and mathematics to learn about the fundamental nature of the universe, including the sun, moon, planets, stars, and galaxies. They also apply their knowledge to solve problems in navigation, space flight, and satellite communications and to develop the instrumentation and techniques used to observe and collect astronomical data. (ES-2) http://stats.bls.gov/oco/ocos052.htm

Physicists explore and identify basic principles and laws governing motion and gravitation, the macroscopic and microscopic behavior of gases, and the structure and behavior of matter, the generation and transfer between energy, and the interaction of matter and energy. Some physicists use these principles in theoretical areas, such as the nature of time and the origin of the universe; others apply their knowledge of physics to practical areas, such as the development of advanced materials, electronic and optical devices, and medical equipment. (ES-2) http://stats.bls.gov/oco/ocos052.htm